

Patent Claims

1. Method for the production of polymeric polysulphides having epoxy terminal-groups in which polymeric polysulphides having thiol terminal-groups is dissolved in an excess of epichlorohydrin, the reaction being started with by the addition of alkaline lye with more alkaline lye being added in a second stage whereby the water present in the reaction mixture is distilled azeotropically with epichlorohydrin after which the epichlorohydrin phase obtained in this manner is separated from the deposited salts and the epichlorohydrin is removed from the separated solution by distillation, whereby polymeric polysulphide having epoxy terminal-groups is left behind as a residue.
2. Method according to claim 1, characterised in that the temperature in the first stage is maintained below 70 °C by cooling and, preferably, in the range between 20 and 50 °C; in the second stage the temperature is advantageously maintained between 40 and 90 °C by heating.
3. Method according to claim 1 or 2, characterised in that aqueous sodium lye is used as the alkaline lye and, preferably, as a 5 to 50 % by weight solution of aqueous sodium lye.
4. Method according to at least one of claims 1 to 3, characterised in that the alkaline lye is used in stoichiometric quantities or in excess, particularly with at least double the stoichiometric amount being used.

5. Method according to at least one of claims 1 to 4, characterised in that during the first stage catalytic quantities or up to 20% of the total amount are added.
6. Method according to at least one of claims 1 to 5, characterised in that a 2- to 12-fold excess, preferably a 3- to 10-fold excess and, in particular, a 4- to 8-fold molecular excess of epichlorohydrin is used.
7. Method according to at least one of claims 1 to 6, characterised in that the reaction is carried out in the presence of a phase transfer catalyst, preferably a quaternary ammonium salt.
8. Method according to claim 7, characterised in that methyltrioctylammoniumchloride is used as the catalyst.
9. Method according to at least one of claims 1 to 8, characterised in that after the azeotropic distillation of the water present in the reaction mixture, the alkali chloride which comes out of solution is filtered off in a closed filter (Rosemund-filter), the alkali chloride then being washed with epichlorohydrin and that finally the epichlorohydrin still adhering to the alkali chloride is dried out by means of a heated inert gas.
10. Method according to at least one of claims 1 to 8, characterised in that the virtually water-free organic phase is separated by decantation or by lifting out the eliminated

salts.

11. Method according to one of claims 1 to 10, characterised in that the obtained polymeric polysulphide is purified by further distillation treatment.
12. Method according to claim 11, characterised in that the polymeric polysulphide having epoxy terminal-groups is purified by carrying out thin-layer distillation.
13. Method according to claim 12, characterised in that the thin-layer distillation is carried out with the addition of an agent which forms an azeotrope with epichlorhydrin and, in particular, n- or iso-propanol.